



SEQUENCE LISTING

<110> GUPTA, ANTJE
ZIMMER, ANKE
BOBKOVÁ, MARIA

<120> OXIDOREDUCTASE FROM PICHIA CAPSULATA

<130> 4838-002

<140> 10/561,043
<141> 2005-12-16

<150> PCT/EP04/005831
<151> 2004-05-28

<150> DE 103 27 454.5-41
<151> 2003-06-18

<160> 10

<170> PatentIn Ver. 3.3

<210> 1
<211> 1175
<212> DNA
<213> Pichia capsulata

<400> 1
cgcgggtggcg gcccgtctag aactagtgg a tccccccggc tgcaggatt cggcacgagg 60
atctttctca actacaatgt ctgtctctc caaaacccag gcccgttaca tcttcaagaa 120
gggtgcccgt cacatcgta aggccqaggt tccaatcccc aagccaactg qtgcctaacc 180
tcttcattgg gtcaaggctg caggaatgtg ccactctgac ttgcacgtca ttggagaaaac 240
attggagggtc cctaccgatg ggtacgtgt cggtcacgaa attgctgggt aattgggtgg 300
gatcgaggac tcggtcaacc ctgaagttt taagggtggg ggccgttatg ctgttcatgg 360
actgaattcg tggatcct gtgagatgtg tcgtaccgt catgacaatg actgtactgg 420
aaatgaatcg aaatggtagt gtctggaaat tagtgggtg taccagcagt acctgctgg 480
gccaattcg caccatctat tgcctattcc agataacgtg tcctacgaag ttgctgctgc 540
cacctctgtat gctgtcttga ctccatcacca tgctatcaag aattccggag tgactccatc 600
ttctaagggtg ttgatgtttg gtctgggtgg tttgggatcg aacgcacttc agatcctcaa 660
ggcatttggc gcctatgtgg ttgccgttga tgtcaagccc gcatccaaag caattgccga 720
cgaattcaaa gcggtatgtat tctataccga tatcagccaa tcttcttgaa aaccagccctc 780
gtttgattac tgttttgact tgcgttcgt gcaggtcacc ttgcacatct gccagaagta 840
tatcaagtcc cacggtagca tcttcccaagt gggctggc tcgagcaagc tgactttcga 900
cttggaaac ctggcattgc gtgaagtaaa aattgttggt aacttctggg gtacttctca 960
ggaacagatc gaagcaatgg agctggtagt ctcgggtagg gtcaagccctc aagttcacac 1020
caccgaacctt gaaaaaccttc ctgaatcaact tgaaaaactg gaggagggtt agatcaatgg 1080
aagattgtt atgatccat gatcacaac tatttataac gagatacggag aaaaagttt 1140
atatgatgtc gttttccaa tccaaagggg gggcc 1175

<210> 2
<211> 366
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Protein

<400> 2
 Ala Val Ala Ala Ala Leu Glu Leu Val Asp Pro Pro Gly Cys Arg Asn
 1 5 10 15
 Ser Ala Arg Gly Ser Phe Ser Thr Thr Met Ser Ala Leu Ser Lys Thr
 20 25 30
 Gln Ala Gly Tyr Ile Phe Lys Lys Gly Ala Gly His Ile Val Lys Ala
 35 40 45
 Glu Val Pro Ile Pro Lys Pro Thr Gly Ala Gln Ser Leu Leu Arg Val
 50 55 60
 Lys Ala Ala Gly Met Cys His Ser Asp Leu His Val Ile Gly Glu Thr
 65 70 75 80
 Leu Glu Val Pro Thr Asp Gly Tyr Val Leu Gly His Glu Ile Ala Gly
 85 90 95
 Glu Leu Val Glu Ile Gly Asp Ser Val Asn Pro Glu Val Phe Lys Val
 100 105 110
 Gly Gly Arg Tyr Ala Val His Gly Leu Asn Ser Cys Gly Ser Cys Glu
 115 120 125
 Met Cys Arg Thr Gly His Asp Asn Asp Cys Thr Gly Asn Glu Ser Lys
 130 135 140
 Trp Tyr Gly Leu Gly Ile Ser Gly Gly Tyr Gln Gln Tyr Leu Leu Val
 145 150 155 160
 Pro Asn Ser His His Leu Leu Pro Ile Pro Asp Asn Val Ser Tyr Glu
 165 170 175
 Val Ala Ala Ala Thr Ser Asp Ala Val Leu Thr Pro Tyr His Ala Ile
 180 185 190
 Lys Asn Ser Gly Val Thr Pro Ser Ser Lys Val Leu Met Phe Gly Leu
 195 200 205
 Gly Gly Leu Gly Ser Asn Ala Leu Gln Ile Leu Lys Ala Phe Gly Ala
 210 215 220
 Tyr Val Val Ala Val Asp Val Lys Pro Ala Ser Lys Ala Ile Ala Asp
 225 230 235 240
 Glu Phe Lys Ala Asp Glu Phe Tyr Thr Asp Ile Ser Gln Ser Ser Trp
 245 250 255
 Lys Pro Ala Ser Phe Asp Tyr Cys Phe Asp Phe Val Ser Leu Gln Val
 260 265 270
 Thr Phe Asp Ile Cys Gln Lys Tyr Ile Lys Ser His Gly Thr Ile Phe
 275 280 285
 Pro Val Gly Leu Gly Ser Ser Lys Leu Thr Phe Asp Leu Gly Asn Leu
 290 295 300

Ala Leu Arg Glu Val Lys Ile Val Gly Asn Phe Trp Gly Thr Ser Gln
305 310 315 320

Glu Gln Ile Glu Ala Met Glu Leu Val Ser Ser Gly Arg Val Lys Pro
325 330 335

Gln Val His Thr Thr Glu Leu Glu Asn Leu Pro Glu Ser Leu Glu Lys
340 345 350

Leu Glu Glu Gly Lys Ile Asn Gly Arg Leu Val Met Leu Pro
355 360 365

```
<210> 3
<211> 17
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Description of Artificial Sequence: Synthetic
Oligonucleotide

<400> 3
qtaatacqac tataqqq 17

```
<210> 4
<211> 21
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Description of Artificial Sequence: Synthetic
Oligonucleotide

<400> 4
caat~~ta~~accc tcactaaagg q 21

```
<210> 5
<211> 30
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Description of Artificial Sequence: Synthetic
Oligonucleotide

<400> 5
ggaaatccat atgtctactc tctccaaaac 30

```
<210> 6
<211> 32
<212> DNA
<213> Artificial Sequence
```

<220>
 <223> Description of Artificial Sequence: Synthetic
 Oligonucleotide

<400> 6
 cactgcatgc ttagtgtctgc tctctccaaa ac

32

<210> 7
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 Oligonucleotide

<400> 7
 cccaagcttt catggaagca taaccaatct t

31

<210> 8
 <211> 1026
 <212> DNA
 <213> Pichia capsulata

<400> 8
 atgtctgctc tctccaaaac ccaggccgg tacatcttca agaagggtgc cggtcacatc 60
 gtcaaggccg aggttccaat ccccaagcca actgggtccc aatctctt tagggtaag 120
 gctgcaggaa tggccactc tgacttgcac gtcatggag aaacatttga ggtccctacc 180
 gatgggtacg tgctcggtca cgaaatttgc ggtgaatttgg tggagatcgg agactcggtc 240
 aaccctgaag ttttaaggt gggaggccgt tatgctgttc atggactgaa ttctgttgaa 300
 tcctgtgaga tgggtcgatc cggcatgac aatgactgta ctggaaatgaa atcgaaatgg 360
 tacggctctgg gaatttgcgg tggtaaccag cagttacgtc tggtaaccggaa ttccgaccat 420
 ctattgccta ttccagataa cgtgtccatc gaagttgtc ctgccaccc ttagtgcgtc 480
 ttgactccat accatgttatc caagaatttcc ggagtactc catcttctaa ggtgttgatg 540
 ttgggtctgg gtgggttggg atcgaacgca cttagatcc tcaaggcatt tggagcctat 600
 gtgggtcccg ttgatgtcaa gccccatcc aaagcaatttgc cgcacgaaatggaaatgg 660
 gaattctata cccatatcg ccaatcttctt tggaaaccgg cctcggttga ttactgttt 720
 gacttcgttt cgctgcaggat caccttcgac atctgtccaga agtataatcaa gtcccacgg 780
 accatcttcc cagtggtctt gggctcgagc aagctgtactt tcgacttggg aaacctggca 840
 ttgcgtgaag taaaaattgt tggtaacttc tgggttactt ctcaggaaaca gatcgaagca 900
 atggagctgg ttagctcggtt tagggtaagttc cctcaagtcc acaccacccaa acttggaaaac 960
 ctccctgaat cacttgaaaaa actggaggag ggtaagatca atggaaagatt ggttatgtttt 1020
 ccatgaa 1026

<210> 9
 <211> 341
 <212> PRT
 <213> Pichia capsulata

<400> 9
 Met Ser Ala Leu Ser Lys Thr Gln Ala Gly Tyr Ile Phe Lys Lys Gly
 1 5 10 15

Ala Gly His Ile Val Lys Ala Glu Val Pro Ile Pro Lys Pro Thr Gly
 20 25 30

Ala Gln Ser Leu Leu Arg Val Lys Ala Ala Gly Met Cys His Ser Asp
 35 40 45

Leu His Val Ile Gly Glu Thr Leu Glu Val Pro Thr Asp Gly Tyr Val
 50 55 60

Leu Gly His Glu Ile Ala Gly Glu Leu Val Glu Ile Gly Asp Ser Val
 65 70 75 80

Asn Pro Glu Val Phe Lys Val Gly Gly Arg Tyr Ala Val His Gly Leu
 85 90 95

Asn Ser Cys Gly Ser Cys Glu Met Cys Arg Thr Gly His Asp Asn Asp
 100 105 110

Cys Thr Gly Asn Glu Ser Lys Trp Tyr Gly Leu Gly Ile Ser Gly Gly
 115 120 125

Tyr Gln Gln Tyr Leu Leu Val Pro Asn Ser His His Leu Leu Pro Ile
 130 135 140

Pro Asp Asn Val Ser Tyr Glu Val Ala Ala Ala Thr Ser Asp Ala Val
 145 150 155 160

Leu Thr Pro Tyr His Ala Ile Lys Asn Ser Gly Val Thr Pro Ser Ser
 165 170 175

Lys Val Leu Met Phe Gly Leu Gly Gly Leu Gly Ser Asn Ala Leu Gln
 180 185 190

Ile Leu Lys Ala Phe Gly Ala Tyr Val Val Ala Val Asp Val Lys Pro
 195 200 205

Ala Ser Lys Ala Ile Ala Asp Glu Phe Lys Ala Asp Glu Phe Tyr Thr
 210 215 220

Asp Ile Ser Gln Ser Ser Trp Lys Pro Ala Ser Phe Asp Tyr Cys Phe
 225 230 235 240

Asp Phe Val Ser Leu Gln Val Thr Phe Asp Ile Cys Gln Lys Tyr Ile
 245 250 255

Lys Ser His Gly Thr Ile Phe Pro Val Gly Leu Gly Ser Ser Lys Leu
 260 265 270

Thr Phe Asp Leu Gly Asn Leu Ala Leu Arg Glu Val Lys Ile Val Gly
 275 280 285

Asn Phe Trp Gly Thr Ser Gln Glu Gln Ile Glu Ala Met Glu Leu Val
 290 295 300

Ser Ser Gly Arg Val Lys Pro Gln Val His Thr Thr Glu Leu Glu Asn
 305 310 315 320

Leu Pro Glu Ser Leu Glu Lys Leu Glu Glu Gly Lys Ile Asn Gly Arg
 325 330 335

Leu Val Met Leu Pro
340

<210> 10
<211> 12
<212> PRT
<213> *Pichia capsulata*

<400> 10
Lys Thr Gln Ala Gly Tyr Ile Phe Lys Lys Gly Ala
1 5 10